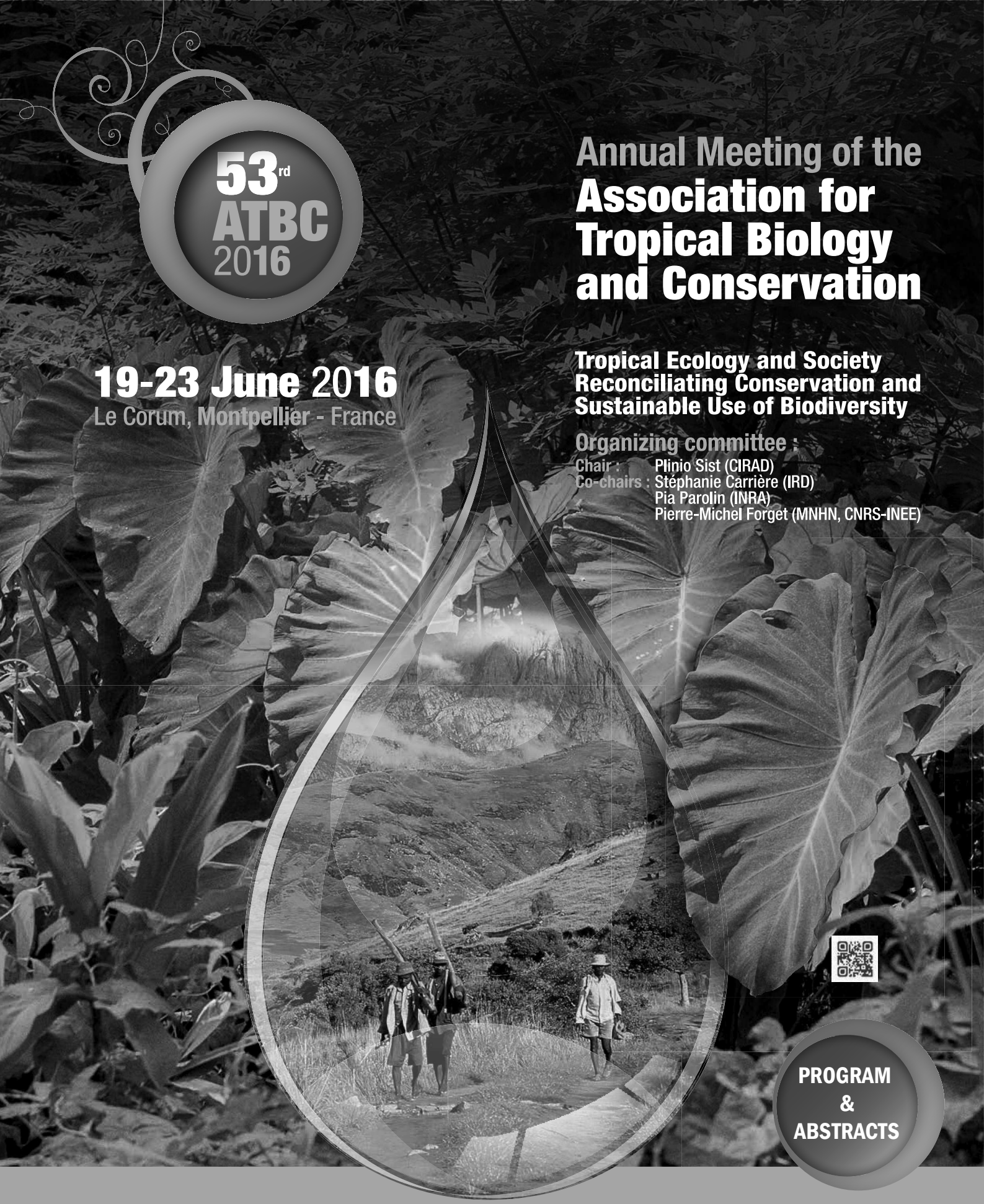

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Tropical Ecology and Society
Reconciliating Conservation and Sustainable Use of Biodiversity

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O55-01 – S55 *Consumptive uses of wildlife in sub saharan africa: the janus bifrons syndrome*
Thursday 23 June / 08:00-10:00 – Einstein

Space for Hunting: Understanding Indigenous and other Hunters' Impacts in the Congo Basin Forests

JOHN FA, JESUS OLIVERO, ANDREW NOSS, HIROKAZU YASUOKA, MICHAEL RIDDELL, JEROME LEWIS, SERGE BAHUCHET, MIGUEL ANGEL FARFÁN, JESUS DUARTE, ROMAIN DUDA, SANDRINE GALLOIS, GUISEPPE CARPANETTO, SHIHO HATTORI, ROBERT NASI
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In the Congo Basin forests, the second most important tropical moist forest region of the world, bushmeat extraction levels have been of concern since they are considered unsustainable; around 5 million tonnes of wild mammal meat are extracted annually. The main driver for such scale of exploitation is commercial hunting, which has proliferated throughout the region. Commercial hunters extract a wide spectrum of wild species that are sold in towns and cities to a large number of consumers, who in fact have other alternative sources. Thus, continued extraction of wild meat at such levels will have enormous consequences on the food security of rural peoples and indigenous groups, i.e. Pygmies. In this paper, we first compare and contrast, from the published literature and unpublished data, the nature and frequency of hunting by Pygmy and non-Pygmy hunters in the Congo Basin. We then use these data to determine whether there are significant differences in the faunal extraction rates by these two groups. In the second half, we model and map the hunting pressure exerted by rural non-Pygmy hunters and Pygmy hunters throughout the Congo Basin forests. Finally, we reflect on whether sustainable hunting by indigenous peoples in tropical forests is possible, and whether wild meat extraction levels by indigenous people are compatible within conservation protected areas. This last point is of particular importance given the conflicts, real or perceived, that are typical, despite the surge in NGOs defending nature conservation and indigenous rights. Experience shows that the indigenous peoples rights and the biodiversity conservation movements have had a tradition of operating separately. In recent years, there has been much debate regarding whether and to what extent the conservation community has embarked upon a global biodiversity conservation effort that, as some observers say, excludes indigenous peoples in the process. We use empirical data and modeling to forward a more rational examination of the impact of subsistence hunting in forests in the Congo Basin.

O55-02 – S55 *Consumptive uses of wildlife in sub saharan africa: the janus bifrons syndrome*
Thursday 23 June / 08:00-10:00 – Einstein

Hunting practices as drivers of small- and large-scale spatial variations in wildlife occurrence: an inter-site comparison across Central Africa

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Background: In a context of global biodiversity threat, overexploitation of wildlife populations through hunting is of major concern. Subsistence hunting, as a source of protein and incomes, is however a major component of livelihood for some local communities. The Congo basin in Central Africa is emblematic of these challenges, with rapidly declining wildlife populations in this biodiversity hotspot and the presence of rural populations relying on the exploitation of natural resources. The elaboration of sustainable hunting and management strategies is crucial but hampered by the lack of information on the impact of hunting on the status of wildlife populations. Measuring concurrently spatial patterns of wildlife occurrence and hunting activities at different sites along a gradient of hunting pressure may provide an important basis to identify indicators of non-sustainability of hunting.
Method: In this study, we implemented a standard protocol aiming at assessing the relationship between hunting practices and wildlife occurrence over 6 hunting grounds in the Congo Basin (Gabon, Congo, and Democratic Republic of Congo). Camera traps were deployed for a month over >300 sampling stations to detect the presence of elusive forest dwelling species. Socio-economic surveys were concurrently conducted in villages to map the contours and the principal features of every hunting ground, and characterize the management rules, hunting practices, offtakes and bushmeat consumption. The data collected by the camera traps were analysed using statistical models that estimate probabilities of occurrence of focal wildlife species at each station.
Result/Discussion: Our analysis identified the environmental and hunting related drivers of small- and large-scale spatial variations in occurrence for species belonging to these different indicator categories. Different categories of species were distinguished according to their potential as indicators of hunting pressure or practices. We discuss their respective relevance as a basis for implementing evidence-based wildlife management strategies through adaptive management.